Name: Date: Period:

**Punnett Square & Word Problems Independent Practice**

He = heterozygous

Ho = homozygous

Label the following genes with either an He/Ho

Aa – Dd –

BB – EE –

cc – ff –

List phenotypes for: Not having acne is dominant to having acne

AA –

Aa –

aa –

List genotypes for: Tall plants are dominant to short plants

Tall plant –

Tall plant –

Short plant –

Word problems – complete work for numbers 1-6 on the back of this sheet.

1. **Show the punnett square** for the following word problem.

In summer squash, white fruit color (W) is dominant and yellow fruit color (w) is recessive. A squash plant that is homozygous for white fruit color is crossed with squash plant that is homozygous for yellow fruit color.

**Information:** In garden peas, tall vine (T) is dominant and short vine (t) is recessive.

1. If a homozygous tall pea plant is crossed with a homozygous short pea plant, what **genotypes** are possible in the **offspring?**
2. If a heterozygous tall pea plant is crossed with a short pea plant, what **genotypes** are possible in the **offspring?**

**Information:** In humans, straight toes (S) is dominant over curled toes (s).

1. What would be the **result** of a cross between a recessive male and a heterozygous female?
2. What **percent** will be **homozygous recessive**?

**Information:**  In dogs, erect ears (E) is dominant over droopy ears (e).

1. **What are the results** if two heterozygous dogs have a litter of puppies?
2. **What percent** will be heterozygous?

Name: Date: Period:

**Punnett Square & Word Problems Independent Practice KEY**

He = heterozygous

Ho = homozygous

Label the following genes with either an He/Ho

Aa – **He** Dd – **He**

BB – **Ho** EE – **Ho**

cc – **Ho** ff – **Ho**

List phenotypes for: Not having acne is dominant to having acne

AA – **no acne**

Aa – **no acne**

aa – **acne**

List genotypes for: Tall plants are dominant to short plants

Tall plant – **TT**

Tall plant – **Tt**

Short plant – **tt**

Word problems – complete work for numbers 1-6 on the back of this sheet.

1. **Show the punnett square for the following word problem.**

In summer squash, white fruit color (W) is dominant and yellow fruit color (w) is recessive. A squash plant that is homozygous for white fruit color is crossed with squash plant that is homozygous for yellow fruit color.

**Information:** In garden peas, tall vine (T) is dominant and short vine (t) is recessive.

1. If a homozygous tall pea plant is crossed with a homozygous short pea plant, **what genotypes are possible in the offspring?** 4 Tt
2. If a heterozygous tall pea plant is crossed with a short pea plant, **what genotypes are possible in the offspring?** 2 Tt, 2 tt

**Information:** In humans, straight toes (S) is dominant over curled toes (s).

1. **What would be the result** of a cross between a recessive male and a heterozygous female? 2 Ss, 2 ss
2. **What percent will be** homozygous recessive? 50%

**Information:**  In dogs, erect ears (E) is dominant over droopy ears (e).

1. **What are the results** if two heterozygous dogs have a litter of puppies? 1EE, 2 Ee, 1 ee
2. **What percent** will be heterozygous? 50%